

Molecule: pPJV2002, 5500 bps DNA Circular
File Name: pPJV2002.cm5,

Description: Ligation of CTA PCR frag Nhe Bam cut into 7054 Nhe Bam Vector

Notes:

Molecule Features:

Type	Start	End	Name	Description
REGION	2242	3060	CMVpro	
REGION	3061	3884	intronA	
GENE	3906	3969	TPAsigCDS'	
GENE	3975	4697	CTA CDS	
REGION	4805	5101	bGHpA	

Enzymes (15 sites)

SalI	2241,	MscI	2266,	SpeI	2356,	SacII	3009
NsiI	3106,	PstI	3879,	HindIII	3894,	NheI	3969
ClaI	4553,	BamHI	4698,	BglII	4805,	EcoRI	5100

FIG. 1-1

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Molecule: pPJV2002, 5500 bps DNA Circular
 Description: Ligation of CTA PCR frag Nhe Bam cut into 7054 Nhe Bam Vector
 File Name: pPJV2002.cm5,
 Printed: 1-5500 bps (Full), format Single Strand

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1  GACGAAAGGG CCTCGTGATA CGCCTATTTT TATAGGTTAA TGTCATGATA ATAATGCTTT
61  CTTAGACGTC AGGTGGCACT TTTCGGGGAA ATGTGCGCGG AACCCCTATT TCTTTATTTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTGCCCCIT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTGTGTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGT ACATCGAACT GGATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTCTGCG
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGTCT CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACAATG
661 GGGATCATCT AACTCGCCTT GATCGTTGGG AACCAGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGGCGAAA CTATTAAGTG
781 CGGAAGTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA CGCTCGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACCACGGGGA GTCAGGCAAC TATGCATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAAAACTTC ATTTTAAATT TAAAAGCATC TAGGTGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTT CACTGAGCGT
1201 CAGACCCCGT AGAAAAGATC AAAGCATCTT CTTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAAGTGGCT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTACTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACC GCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTGGAATC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCCGGCTGA ACCGGGGGTT
1561 CGTGCACACA GCCCAGCTTC GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTTCCCGAAG GGACAGGTAT CCGGTAAGCG
1681 GCAGGCTCGG AACAGGAGAG CGCAGGAGGG AGCTTCCAGG GGGAAACGCC TGCTATCTTT
1741 ATAGTCTGTG CGGGTTTCCG CACCTCTGAC TTGAGCGTGG ATTTTGTGTA TGCTCGTCAG
1801 GCGGGCGGAG CCTATGGAAG AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCTCG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCCGCAGCCG AACGACCGAG CGCAGCGACT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAAAC GCCTCTCCCC GCGCGTTGGC
2041 CGATTCAATTA ATGCAAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGC AGTGACCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACACTAT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGCGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCGACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT ACTTCATAGC
2401 CCATATATGG AGTTCCGCGT TACATAACTT ACGGTAAATG GCCCGCCTCG TGACCGCCCA
2461 ACGACCCCGC CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCACTTG CCACTACATC
2581 AAGTGTATCA TATGCCAAGT CCGGCCCCCT ATTGACGTCA ATGACGGTAA ATGGCCCGCC
2641 TGGCATTATG CCCAGTACAT GACCTTACCG GACTTTCTTA CTTGGCAGTA CATCTACGTA
2701 TTAGTCATCG CTATTACCAT GGTGATGCGG TTTTGGCACT ACACCAATGG CCGTGGATAG
2761 CGGTTTGAAT CACGGGGGAT TCCAAGTCTC CACCCCATTG ACGTCAATGG GAGTTTCTTT
2821 TGGCACCAAA ATCAACGGGA CTTTCCAAAA TGTCGTAATA ACCCGCCCCC GTTGACGCAA
2881 ATGGGCGGTA GCGGTGTACG GTGGGAGGTC TATATAAGCA GAGCTCCTTT ACTGAACCGT

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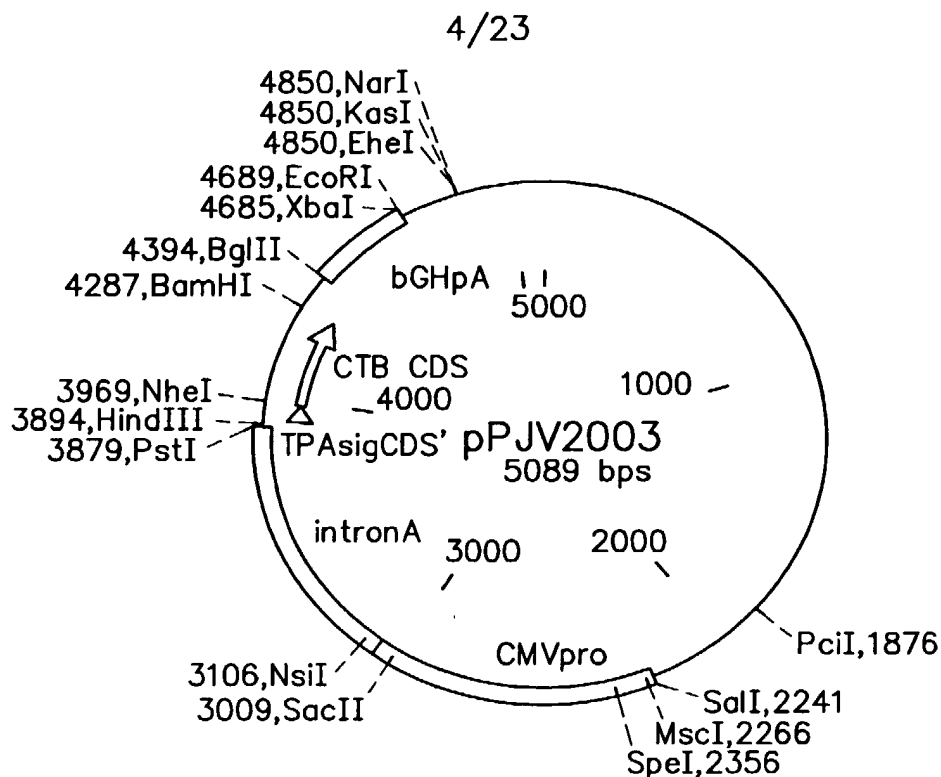
FIG. 1-2

ABC
 or 5' L

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2941 CAGATCGCCT GGAGACGCCA TCCACGCTGT TTTGACCTCC ATAGAAGACA CCGGGACCGA
 3001 TCCAGCCTCC GCGGCCGGGA ACGGTGCATF GGAACGCCGA TTCCCCGTGC CAAGAGTGAC
 3061 GTAAGTACCG CCTATAGACT CTATAGGCAC ACCCCTTTGG CTCTTATGCA TGCTATACTG
 3121 TTTTGGCTT GGGGCTATA CACCCCGCT CTTTATGCTA TAGGTGATGG TATAGCTTAG
 3181 CCTATAGGTG TGGCTTATTG ACCATTATTG ACCACTCCCC TATTGGTGAC GATACCTTCC
 3241 ATTACTAATC CATAACATGG CTCTTTGCCA CAACTATCTC TATTGGCTAT ATGCCAATAC
 3301 TCTGTCTTTC AGAGACTGAC ACGGACTCTG TATTTTTTACA GGATGGGGTC CCATTTATTA
 3361 TTTACAAATT CACATATACA ACAACGCCGT CCCCCGTGCC CGCAGTTTTT ATTAACATA
 3421 GCGTGGGATC TCCACGCCGA TCTCGGTAC GTGTTCGGA CATGGGCTCT TCTCCGGTAG
 3481 CGGCGGAGCT TCCACATCCG AGCCCTGGTC CCATGCCCTCC AGCGGCTCAT GGTGCTCGG
 3541 CAGCTCCTTG CTCCTAACAG TGGAGGCCAG ACTTAGGCAC AGCACAATGC CCACCACCAC
 3601 CAGTGTGCCG CACAAGGCCG TGGCGGTAGG GTATGTGTCT GAAAATGAGC TCGGAGATTG
 3661 GGCTCGCACC GTGACGCAGA TGAAGACTT AAGGCAGCGG CAGAAGAAGA TGCAGGCAGC
 3721 TGAGTTCTTG TATTCTGATA AGAGTCAGAG GTAACCTCCG TTGCGGTGCT GTTAACGGTG
 3781 GAGGGCAGTG TAGTCTGAGC AGTACTCGT GCTGCCGCCG GCGCCACCAG ACATAATAGC
 3841 TGACAGACTA ACAGACTGTT CCTTTCATG GGTCTTTTCT GCAGTCACCG TCCAAGCTTG
 3901 CAATCATGGA TGCAATGAAG AGAGGGCTCT GCTGTGTGCT GCTGCTGTGT GGAGCAGTCT
 3961 TCGTTTCGGC TAGCAATGAT GATAAGTTAT ATCGGGCAGA TTCTAGACCT CCTGATGAAA
 4021 TAAAGCAGTC AGGTGGTCTT ATGCCAAGAG GACAGAGTGA GTACTTTGAC CGAGGTACTC
 4081 AAATGAATAT CAACCTTTAT GATCATGCAA GAGGAAGTCA GACGGGATTT GTTAGGCACG
 4141 ATGATGGATA TGTTCACACC TCAATTAGTT TGAGAAGTGC CCACTTAGTG GGTCAAATA
 4201 TATTGTCTCG TCATTCTACT TATTATATAT ATGTTATAGC CACTGCACCC AACATGTTTA
 4261 ACGTTAATGA TGTATTAGG CATACACTC CTCATCCAGA TGAACAAGAA GTTTCTGCTT
 4321 TAGGTGGGAT TCCATACTCC CAAATATATG GATGGTATCG AGTTCAATTT GGGGTGCTTG
 4381 ATGAACAATT ACATCGTAAT AGGGGCTACA GAGATAGATA TTACAGTAAC TTAGATATTG
 4441 CTCCAGCAGC AGATGGTTAT GGATTGGCAG GTTTCCTCC GGAGCATAGA CCTTGGAGGG
 4501 AAGAGCCCTG GATTTCATCAT GCACCGCCGG GTTGTGGGAA TGCTCCAAGA TCATCGATGA
 4561 GTAATACTTG CGATGAAAAA ACCCAAAGTC TAGGTGTAAA ATTCTTGAC GAATACCAAT
 4621 CTAAAGTTAA AAGACAAATA TTTTCAGGCT ATCAATCTGA TATTGATACA CATAATAGAA
 4681 TTAAGGATGA ATTATGAGGA TCCTCGCAAT CCCTAGGAGC ATTAGGCAAG GGCTTGAGCT
 4741 CACGCTCTTG TGAGGGACAG AAATACAATC AGGGGCAGTA TATGAATACT CCATGGAGAA
 4801 ACCCAGATCT ACGTATGATC AGCCTCGACT GTGCCCTCTA GTTGCCAGCC ATCTGTTGTT
 4861 TGCCCTCCCT CCGTGCCTTC CTGACCCTG GAAGGTGCCA CTCCCACGT CTCTTCCTAA
 4921 TAAATGAGG AAATTGCATC GCATTGTCTG AGTAGGTGTC ATTCTATTCT GGGGGGTGGG
 4981 GTGGGGCAGG ACAGCAAGGG GGAGGATTGG GAAGACAATA GCAGGCATGC TGGGCATGCC
 5041 GTGGGCTCTA TGGCTTCTGA GCGGAAAGA ACCAGCTGGG GCTCGACAGC TCGACTCTAG
 5101 AATTCAGTGG CCGTCTTTT ACAACGTCTG GACTGGGAAA ACCCTGGCGT TACCCAACCT
 5161 AATCGCCTTG CAGCACATCC CCTTTTCGCC AGCTGGCGTA ATAGCGAAGA GCGCCGACC
 5221 GATCGCCCTT CCCAACAGTT GCGCAGCCTG AATGGCGAAT GCGCCCTCAT GCGGTATTTT
 5281 CTCCTTACCG ATCTGTGCGG TATTTACAC CCGATATGCT GCACTCTCAG TACAATCTGC
 5341 TCTGATGCCG CATAGTTAAG CCAGCCCGCA CACCCGCTGA CCGCCCTGA CCGGAGCTGC
 5401 CCGGCTTGTC TGCTCCCGGC ATCCGCTTAC AGACAAGCTG TGACCGTCTC CCGGAGCTGC
 5461 ATGTGTCAGA GCTTTTCACC GTCATCACCG AAACGCGCGA

FIG. 1-3



Molecule: pPJV2003, 5089 bps DNA Circular
File Name: pPJV2003.cm5,

Description: Ligation of CTB nhe bam cut frag into 7054 Nhe Bam Vector

Notes:

Molecule Features:

Type	Start	End	Name	Description
REGION	2242	3060	CMVpro	
REGION	3061	3884	intronA	
GENE	3906	3969	TPAsigCDS'	
GENE	3975	4286	CTB CDS	
REGION	4394	4690	bGHpA	

Enzymes (16 sites)

PciI	1876,	SalI	2241,	MscI	2266,	SpeI	2356
SacII	3009,	NsiI	3106,	PstI	3879,	HindIII	3894
NheI	3969,	BamHI	4287,	BglII	4394,	XbaI	4685

FIG. 2-1

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Molecule: pPJV2003, 5089 bps DNA Circular
 Description: Ligation of CTB nhe bam cut frag into 7054 Nhe Bam Vector
 File Name: pPJV2003.cm5,
 Printed: 1-5089 bps (Full), format Single Strand

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1   GACGAAAGGG CCTCGTGATA CGCCTATTTT TATAGGTTAA TGTCATGATA ATAATGGTTT
61  CTTAGACGTC AGGTGGCACT TTTCGGGGAA ATGTGCGCGG AACCCCTATT TGTTTATTTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGACT ATGAGTATTC AACATTTCCG TGTCGCCCTT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCCTG
421 TATGTGGCGC GGTATTATCC CGTATTGACC CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGACTACT CACCACTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTC CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACCGGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGGCAGAA CTATTAAGTG
781 GCGAAGTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTACATTGAT TTAAAACTTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCCTTC CACTGAGCGT
1201 CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAAGTGGCT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACCG CCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTTGCACTC AAGACGATAG TTACCGGATA AGCGCGAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGCACACA GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTTCGCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCAGGAGCG AGCTTCCAGG GGGAACGCCG TGGTATCTTT
1741 ATAGTCTCTT CGGGTTTCGC CACCTCTGAC TTGAGCGTCC ATTTTGTGA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGCAAA AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCGCGAGCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAACC GCCTCTCCCC GCGCGTTGGC
2041 CGATTCATTA ATGCAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGC AGTGAGCCCA
2101 ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTCTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCCACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATGG AGTTCCGCGT TACATAACTT ACGGTAAATG GCGCGCCTCG TGACCGCCCA
2461 ACGACCCCGG CCCATTGACC TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGGTAAAC TGCCCACTTG GCAGTACATC

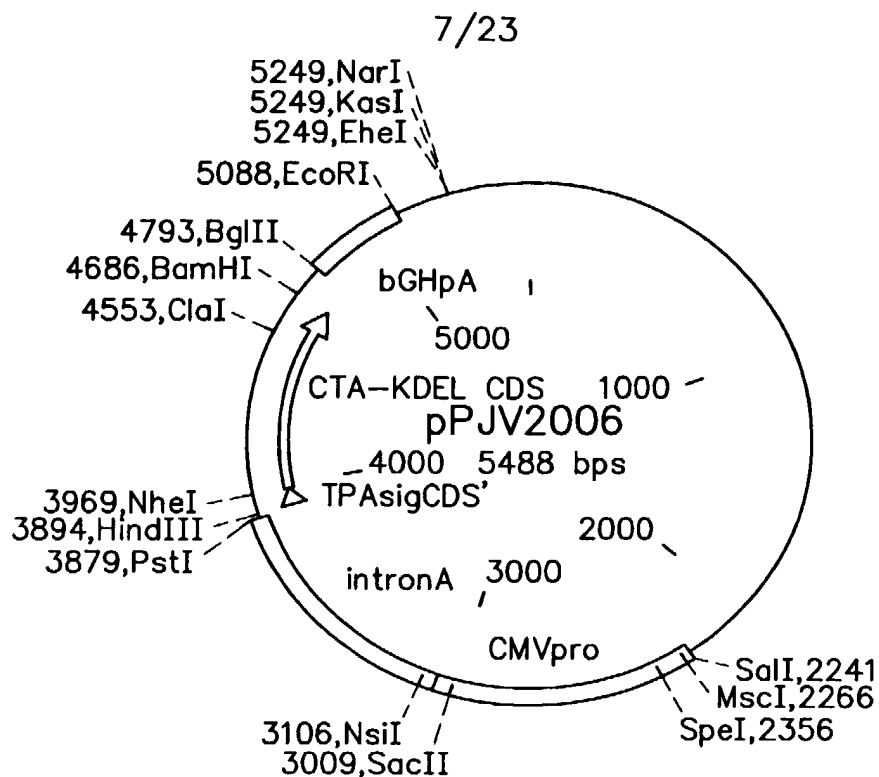
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FIG. 2-2

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2581 AAGTGTATCA TATGCCAAGT CCGGCCCCCT ATTGACGTCA ATGACGGTAA ATGGCCCCGCC
 2641 TGGCATTATG CCCAGTACAT GACCTTACGG GACTTTCCTA CTTGGCAGTA CATCTACGTA
 2701 TTAGTCATCG CTATTACCAT GGTGATGCGG TTTTGGCAGT ACACCAATGG GCGTGGATAG
 2761 CCGTTTGA CT CACGGGGATT TCCAAGTCTC CACCCCATTC ACGTCAATGG GAGTTTGT TT
 2821 TGGCACCAAA ATCAACGGGA CTTTCCAAAA TGTCTGTAATA ACCCCGCCCC GTTGACGCAA
 2881 ATGGCGGGTA GCGCTGTACC GTGGGAGGTC TATATAAGCA GAGCTCGTIT AGTGAACCGT
 2941 CAGATCGCCT GGAGACGCCA TCCACGCTGT TTTGACCTCC ATAGAAGACA CCGGGACCGA
 3001 TCCAGCCTCC GCGGCGGGGA ACGGTGCATT GGAACCGCGA TTCCCCGTGC CAAGAGTGAC
 3061 CTAAGTACCG CCTATAGACT CTATAGGCAC ACCCCTTTGG CTCTTATGCA TGCTATACTG
 3121 TTTTGGCTT GGGGCTATA CACCCCGCT CTTTATGCTA TAGGTGATGG TATAGCTTAG
 3181 CCTATAGGTC TGGGTTATTG ACCATTATTG ACCACTCCCC TATTGGTGAC GATACTTTCC
 3241 ATTACTAATC CATAACATGG CTCTTTGCCA CAACTATCTC TATTGGCTAT ATGCCAATAC
 3301 TCTGTCTTC AGAGACTGAC ACGGACTCTG TATTTTACA GGATGGGGTC CCATTTATTA
 3361 TTTACAAATT CACATATACA ACAACGCCGT CCCCCGTGCC CGCAGTTTTT ATTAAACATA
 3421 GCGTGGGATC TCCACGGCAA TCTCGGTAC GTGTCCGGA CATGGGCTCT TCTCCGGTAG
 3481 CCGCGGAGCT TCCACATCCG AGCCCTGGTC CCATGCCCTCC AGCGGCTCAT GCTCGCTCGG
 3541 CAGCTCCTTG CTCCTAACAG TGGAGGCCAG ACTTAGGCAC AGCACAATGC CCACCACCAC
 3601 CAGTGTGCCG CACAAGGCCG TGGCGGTAGG GTATGTGCTT GAAAATGAGC TCGGAGATTG
 3661 GGCTCGCACC GTGACGCAGA TGGAAGACTT AAGGCAGCGG CAGAAGAAGA TGCAGGCAGC
 3721 TGAGTTGTTG TATICTGATA AGAGTCAGAG GTAACCTCCG TTGCGGTGCT GTTAAACGGT
 3781 GAGGGCAGTG TAGTCTGAGC AGTACTCGTT GCTGCCGCGC GCGCCACCAG ACATAATAGC
 3841 TGACAGACTA ACAGACTGTT CCTTTCCATC GGTCTTTTCT GCAGTCACCG TCCAAGCTTG
 3901 CAATCATGGA TGCAATGAAG AGAGGGCTCT GCTGTGTGCT GCTGCTGCTT GGAGCAGTCT
 3961 TCGTTTCGGC TAGCACACCT CAAAATATTA CTGATTTGTG TGCAGAATAC CACAACACAC
 4021 AAATATATAC GCTAAATGAT AAGATATTTT CGTATACAGA ATCTCTAGCT GGAAAAAGAG
 4081 AGATGGCTAT CATTACTTTT AAGAATGGTG CAATTTTTCA AGTAGAAGTA CCAGGTAGTC
 4141 AACATATAGA TTCACAAAAA AAAGCGATTG AAAGGATGAA GGATACCCTG AGGATTGCAT
 4201 ATCTTACTGA AGCTAAAGTC GAAAAGTTAT GTGTATGGAA TAATAAAACG CCTCATGCCA
 4261 TTGCCGCAAT TAGTATGGCA AATTAAGGAT CCTCGCAATC CCTAGGAGGA TTAGGCAAGG
 4321 GCTTGAGCTC ACGCTCTTGT GAGGGACAGA AATACAATCA GGGGCAGTAT ATGAATACTC
 4381 CATGGAGAAA CCCAGATCTA CGTATGATCA GCCTCGACTG TGCCCTTCTAG TTGCCAGCCA
 4441 TCTGTTGTTT GCGGCTCCCC CGTGCCCTCC TTGACCCTGG AAGGTGCCAC TCCCACTGTC
 4501 CTTTCCTAAT AAAATGAGGA AATTGCATCG CATTGTCTCA GTAGGTGTCA TTCTATTCTG
 4561 GCGGCTGGGG TGGGGCAGGA CAGCAAGGGG GAGGATTGGG AAGACAATAG CAGGCATGCT
 4621 GGGGATCCCG TGGGCTCTAT GGCTTCTGAG GCGGAAAGAA CCAGCTGGGG CTCGACAGCT
 4681 CGACTCTAGA ATTCACTGGC CGTCGTTTTA CAACGTCTGT ACTGGGAAAA CCCTGGCGTT
 4741 ACCCAACTTA ATCGCCTTGC AGCACATCCC CTTTTCGCCA GCTGGCGTAA TAGCGAAGAG
 4801 GCGCGCACCG ATCGCCCTTC CCAACAGTTG CGCAGCCTGA ATGCGCAATC GCGCCTGATG
 4861 CGGTATTTTC TCCTTACGCA TCTGTGCGGT ATTTACACCC GCATATGGTG CACTCTCAGT
 4921 ACAATCTGCT CTGATGCCGC ATAGTTAAGC CAGCCCCGAC ACCCGCCAAC ACCCGCTGAC
 4981 GCGCCCTGAC GGGCTTGTCT GCTCCCGGCA TCCGCTTACA GACAAGCTGT GACCGTCTCC
 5041 GGGAGCTGCA TGTGTCAGAG GTTTTACCCG TCATACCCGA AACCGCGGA

FIG. 2-3



Molecule: pPJV2006, 5488 bps DNA Circular

File Name: pPJV2006.cm5,

Description: Ligation of CTA-KDEL Frag cut w/ Nhe Bam into 7054 Nhe Bam Vector

Notes:

Molecule Features:

Type	Start	End	Name	Description
REGION	2242	3060	CMVpro	
REGION	3061	3884	intronA	
GENE	3906	3969	TPAsigCDS'	
GENE	3975	4685	CTA-KDEL CDS	
REGION	4793	5089	bGHpA	

Enzymes (15 sites)

SalI	2241,	MscI	2266,	SpeI	2356,	SacII	3009
NsiI	3106,	PstI	3879,	HindIII	3894,	NheI	3969
ClaI	4553,	BamHI	4686,	BglII	4793,	EcoRI	5088

FIG. 3-1

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Molecule: pPJV2006, 5488 bps DNA Circular
 Description: Ligation of CTA-KDEL PCR Frag cut w/ Nhe Bam into 7054 Nhe
 Bam Vector
 File Name: pPJV2006.cm5,
 Printed: 1-5488 bps (Full), format Single Strand

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1   GACGAAAGGG CCTCGTGATA CGCCTATTTT TATAGGTTAA TGTCATGATA ATAATGGTTT
61  CTTAGACGTC AGGTGGCACT TTTCCGGGAA ATGTGCGCGG AACCCCTATT TGTTTATTTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATIGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCTG TGTGCGCCCTT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGCTT ACATCGAACT GGATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTCTGCG
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCCT CCATAACCAT GAGTCATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG
661 GCGATCATGT AACTCGCCTT GATCGTTGGG AACCGGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGCGCAAA CTATTAAGTG
781 GCGAAGTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCCTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA CATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAAAACTTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTT CACTGAGCGT
1201 CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTTCTG CCGCTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAAGTGGCT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACC GCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTTGCACTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGCACACA GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CCGGTAAGCG
1621 AGCATTGACA AAGCGCCACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGCTCGG AACAGGAGAG CGCAGGAGG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCC ATTTTGTGTA TGCTCGTCAG
1801 GGGGCGCGAG CCTATGGAAA AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCGCGAGCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAACC GCCTCTCCCC GCGCGTTGGC
2041 CGATTCAATTA ATGCAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGC ACTGAGCGCA
2101 ACGCAATTA TGTGACTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTCTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCGACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATGG AGTTCCGCGT TACATAACTT ACGGTAATG GCCCGCCTCG TGACCGCCCA
2461 ACGACCCCGG CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACCTCAATGG GTGAGTAATT TACGGTAAAC TGCCCACTTG GCAGTACATC
2581 AAGTGTATCA TATGCCAAGT CCGGCCCCCT ATTGACCTCA ATGACGGTAA ATGCCCCGCC
2641 TGGCATATG CCCAGTACAT GACCTTACCG GACTTTCCTA CTGCGCAGTA CATCTACGTA

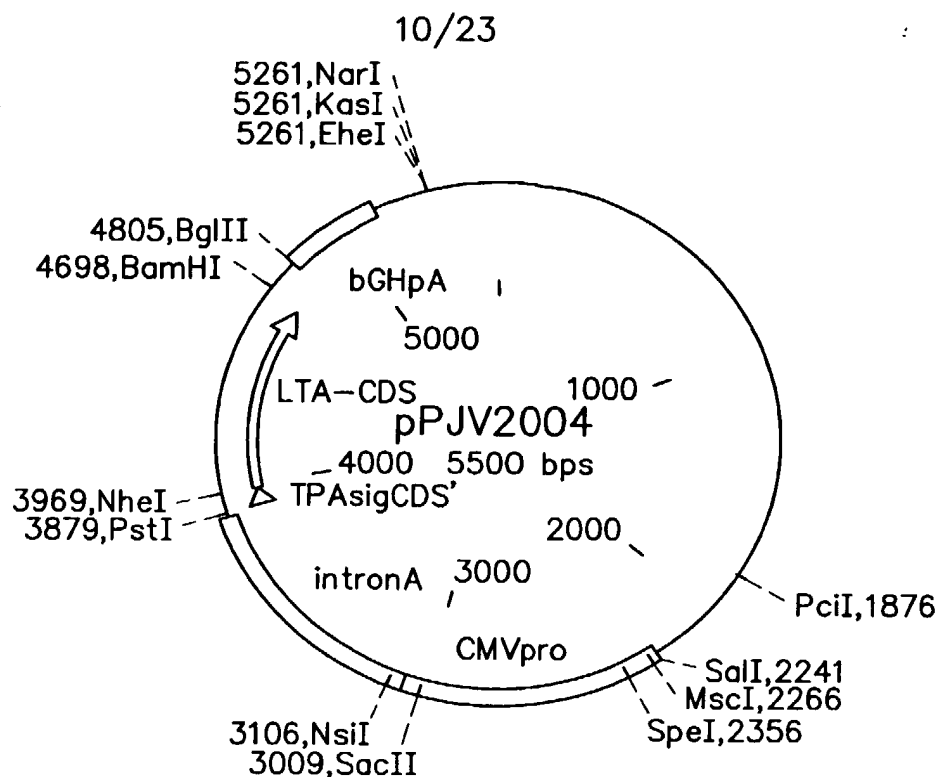
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FIG. 3-2

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2701 TTAGTCATCG CTATTACCAT GGTGATGCGG TTTTGGCAGT ACACCAATGG GCGTGGATAG
 2761 CCGTTTGA CT CACGGGGATT TCCAAGTCTC CACCCCATTG ACGTCAATGG GAGTTTGT
 2821 TGGCACCAAAA ATCAACGGGA CTTTCCAAAA TGTCGTAATA ACCCCGCCCC GTTGACGCAA
 2881 ATGGGCGGTA GCGGTGTACG GTGGGAGGTC TATATAAGCA GAGCTCGTTT AGTGAACCGT
 2941 CAGATCGCCT GGAGACGCCA TCCACGCTGT TTTGACCTCC ATAGAAGACA CCGGGACCGA
 3001 TCCAGCCTCC GCGGCCGGGA ACGGTGCATT GGAACGCGGA TTCCCGCTGC CAAGAGTGAC
 3061 GTAAGTACCG CCTATAGACT CTATAGGCAC ACCCCTTTGG CTCTTATGCA TGCTATACTG
 3121 TTTTGGCTT GGGGCCTATA CACCCCGCT CCTTATGCTA TAGGTGATGG TATAGCTTAG
 3181 CCTATAGGTG TGGGTATTG ACCATTATTG ACCACTCCCC TATTGGTGAC GATACTTTCC
 3241 ATTACTAATC CATAACATGG CTCTTTGCCA CAACTATCTC TATTGGCTAT ATGCCAATAC
 3301 TCTGTCTTTC AGAGACTGAC ACGGACTCTG TATTTTACA GGATGGGGTC CCATTTATTA
 3361 TTTACAAATT CACATATACA ACAACGCCGT CCCCCGTGCC CGCAGTTTTT ATTAACATA
 3421 GCGTGGGATC TCCACCGGAA TCTCGGTAC GTGTTCCCGA CATGGGCTCT TCTCCGGTAG
 3481 CCGCGGAGCT TCCACATCCG AGCCCTGGTC CCATGCCTCC AGCGGCTCAT GGTCCGCTCGG
 3541 CAGCTCCTTG CTCCTAACAG TGGAGGCCAG ACTTAGGCAC AGCACAATGC CCACCACCAC
 3601 CAGTGTGCCG CACAAGGCCG TGGCGGTAGG GTATGTGTCT GAAAATGAGC TCGGAGATTG
 3661 GGCTCGCACC GTGACGCAGA TGGAAGACTT AAGGCAGCGG CAGAAGAAGA TGCAGGCAGC
 3721 TGAGTTGTTG TATTCTGATA AGAGTCAGAG GTAACCTCCG TTGCGGTGCT GTTAACGGTG
 3781 GAGGGCAGTG TAGTCTGAGC AGTACTCGTT GCTGCCGCGC GCGCCACCAG ACATAATAGC
 3841 TGACAGACTA ACAGACTGTT CCTTCCATG GGTCTTTTCT GCAGTCACCG TCCAAGCTTG
 3901 CAATCATGGA TGCAATGAAG AGAGGGCTCT GCTGTGTGCT GCTGCTGTGT GGAGCAGTCT
 3961 TCGTTTCGGC TAGCAATCAT GATAAGTTAT ATCGGGCAGA TTCTAGACCT CCTGATGAAA
 4021 TAAAGCAGTC AGGTGGTCTT ATGCCAAGAG GACAGAGTGA GTACTTTGAC CGAGGTACTC
 4081 AAATGAATAT CAACCTTTAT GATCATGCAA GAGGAAGTCA GACGGGATTT GTTAGGCACG
 4141 ATGATCGATA TGTTTCCACC TCAATTAGTT TGAGAAGTGC CCACTTAGTG GGTCAAACCTA
 4201 TATTGTCTCG TCATTCTACT TATTATATAT ATGTTATAGC CACTGCACCC AACATGTTTA
 4261 ACGTTAATGA TGTATTAGGG GCATACAGTC CTCATCCAGA TGAACAAGAA GTTTCTGCTT
 4321 TAGGTGGGAT TCCATACTCC CAAATATATG GATGCTATCG AGTTCATTTT GGGGTGCTTG
 4381 ATGAACAATT ACATCGTAAT ACGGGCTACA GAGATAGATA TTACAGTAAC TTAGATATTG
 4441 CTCCAGCAGC AGATGGTTAT GGATTGCCAG GTTTCCTCC GGAGCATAGA GCTTGGAGGG
 4501 AAGAGCCGTC GATTCATCAT GCACCGCCGG GTTGTGGGAA TGCTCCAAGA TCATCGATGA
 4561 GTAATACTTG CGATGAAAAA ACCCAAAGTC TAGGTGTAAA ATTCTTGAC GAATACCAAT
 4621 CTAAAGTTAA AAGACAAATA TTTCAGGCT ATCAATCTGA TATTGATACA CATAATAGAA
 4681 TTTGAGGATC CTCGCAATCC CTAGGAGGAT TAGGCAAGGG CTTGAGCTCA CGCTTTGTG
 4741 AGGCACAGAA ATACAATCAG GGCAGTATA TGAATACTCC ATGGAGAAAC CCAGATCTAC
 4801 GTATGATCAG CCTCGACTGT GCCTTCTAGT TGCCAGCCAT CTGTTGTTTG CCCCTCCCCC
 4861 GTGCCCTTCT TGACCCTGGA AGGTGCCACT CCCACTGTCC TTTCCTAATA AAATGAGGAA
 4921 ATTGCATCGC ATTGTCTGAG TAGGTGTCTT TCTATTCTGG GGGGTGGGGT GGGGCAGGAC
 4981 AGCAAGGGGG AGGATTGGGA AGACAATAGC AGGCATGCTG GCGATGCCGT GGCCTCTATG
 5041 GCTTCTGAGG CGGAAAGAAC CAGCTGGGGC TCGACAGCTC GACTCTAGAA TTCCTGGCC
 5101 GTCGTTTTAC AACGTCGTGA CTGGGAAAAC CCTGGCGTTA CCCAACTTAA TCGCCTTGCA
 5161 GCACATCCCC CTTTCGCCAG CTGGCGTAAT AGCGAAGAGG CCCGACCGA TCGCCCTTCC
 5221 CAACAGTTGC GCAGCCTGAA TGGCGAATGC CGCCTGATGC GGTATTTTCT CCTTACGCAT
 5281 CTGTGCGGTA TTTCACACCG CATATGCTGC ACTCTCAGTA CAATCTGCTC TGATGCCGCA
 5341 TAGTTAAGCC AGCCCCGACA CCGCCCAACA CCGCTGACC CGCCCTGACC GGCTTGTCTG
 5401 CTCCCGGCAT CCGCTTACAG ACAAGCTGTG ACCGTCTCCG GGAGCTGCAT GTGTCAGAGG
 5461 TTTTACCTG CATCACCGAA ACGCGCGA

FIG. 3-3



Molecule: pPJV2004, 5500 bps DNA Circular
 File Name: pPJV2004.cm5,

Description: Ligation of LTA Nhe-Bam Insert into 7054 Nhe Bam Vector

Notes:

Molecule Features:

Type	Start	End	Name	Description
REGION	2242	3060	CMVpro	
REGION	3061	3884	intronA	
GENE	3906	3969	TPAsigCDS'	
GENE	3975	4697	LTA-CDS	
REGION	4805	5101	bGHpA	

Enzymes (13 sites)

PciI	1876,	SalI	2241,	MscI	2266,	SpeI	2356
SacII	3009,	NsiI	3106,	PstI	3879,	NheI	3969
BamHI	4698,	BglII	4805,	EheI	5261,	KasI	5261

FIG. 4-1

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Molecule: pPJV2004, 5500 bps DNA Circular
 Description: Ligation of LTA Nhe-Bam Insert into 7054 Nhe Bam Vector
 File Name: pPJV2004.cm5,
 Printed: 1-5500 bps (Full), format Single Strand

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1   GACGAAAGGG CCTCGTGATA CGCCTATTTT TATAGGTTAA TGTCATGATA ATAATGGTTT
61  CTTAGACGTC AGGTGGCACT TTTCGGGGAA ATGTGCGCGG AACCCCTATT TGTITTATTTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGACT ATGAGTATTC AACATTTCCG TGTCGCCCTT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTGCTC ACCCAGAAAC GCTGGTGAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAGA
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCTGC
421 TATGTGGCGC GGTATTATCC CGTATTGACC CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCACTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTGCTG CCATAACCAT GAGTGATAAC ACTGCCGCCA
601 ACTTACTTCT GACAACGATC GCAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACCGGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGGCGAAA CTATTAAGTG
781 GCGAACTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG CGCGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA GCGTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAGCCCT
961 CCCGTATCCT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAAAACTTC ATTTTAAATT TAAAAGCATC TAGGTGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTT CACTGAGCGT
1201 CAGACCCCGT AGAAAAGATC AAAGGATCTT CTTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAAGTGGCT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACCG CCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTGGACTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGCACACA GCGCAGCTTG GAGCGAACGA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACG CTTCGCCAAG GCAGAAAGGC GCACAGGTAT CCGGTAAGCG
1681 GCAGGGTCCG AACAGGAGAG CGCACGAGGG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCTGT CGGCTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTTGTGA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGGAAG AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCGCGAGCCG AACGACCGAG CGCAGCGAGT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAACC GCCTCTCCCC GCGCGTTGGC
2041 CGATTCAITA ATGCAGCTGG CACGACAGGT TTTCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CCGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCGACATAA ATCAATATTG GCTATTGGCC ATTGCATACC
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATGG AGTTCCGCGT TACATAACTT ACGGTAAATG GCGCGCCTCG TGACCGCCCA
2461 ACGACCCCCC CCCATTGACC TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGGAGTATT TACGCTAAAC TGCCCACTTG CCAGTACATC
2581 AAGTGTATCA TATGCCAAGT CCGGCCCCCT ATTGACGTCA ATGACGGTAA ATGCCCCGCC

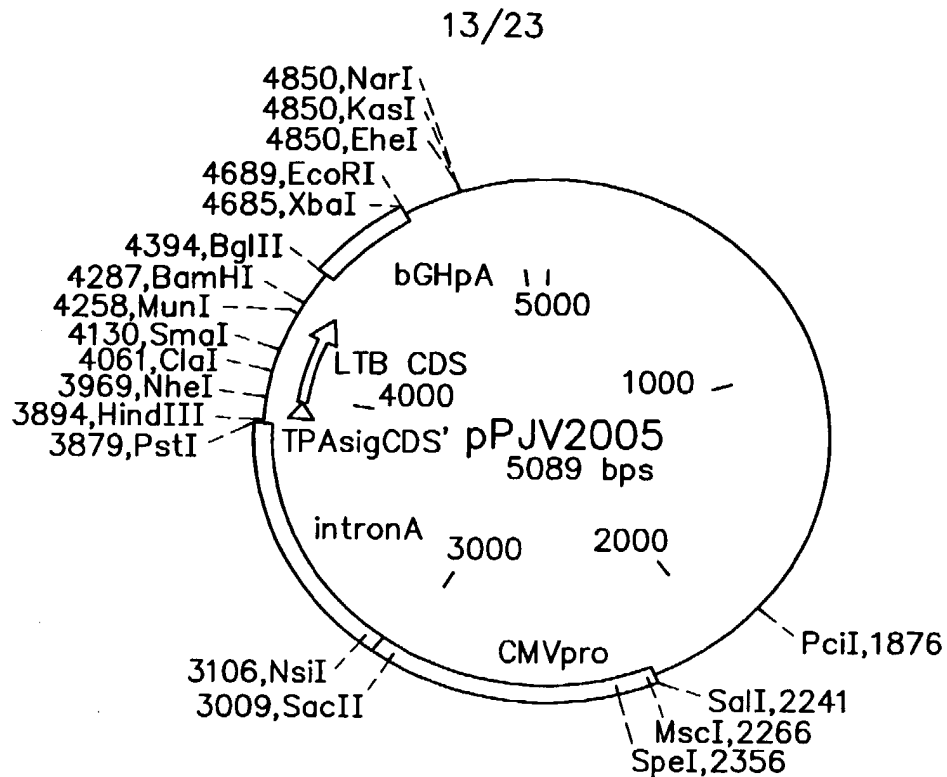
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FIG. 4-2

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2641	TGGCATTATG	CCCAGTACAT	GACCTTACGG	GACTTTCCTA	CTTGGCAGTA	CATCTACGTA
2701	TTAGTCATCG	CTATTACCAT	GGTGATGCGG	TTTTGGCAGT	ACACCAATGG	GCGTGGATAG
2761	CGGTTTGACT	CACGGGGATT	TCCAAGTCTC	CACCCCATTG	ACGTCAATGG	GAGTTTGTIT
2821	TGGCACCAAA	ATCAACGGGA	CTTTCCAAAA	TGTCGTAATA	ACCCCGCCCC	GTTGACGCAA
2881	ATGGGCGGTA	GCGGTGTACG	GTGGGAGGTC	TATATAAGCA	GAGCTCGTTT	AGTGAACCGT
2941	CAGATCCGCT	GGAGACGCCA	TCCACGCTGT	TTTGACCTCC	ATAGAAGACA	CCGGGACCGA
3001	TCCAGCCTCC	GCGGCCGGGA	ACGGTGCATT	GGAACGCGGA	TCCCCCGTGC	CAAGATGAC
3061	GTAAGTACCG	CCTATAGACT	CTATAGGCAC	ACCCCTTTGG	CTCTTATGCA	TGCTATACTG
3121	TTTTTGCTT	GGGGCCTATA	CACCCCGCT	CCTTATGCTA	TAGGTGATGG	TATAGCTTAG
3181	CCATAGGTTG	TGGGTTATTG	ACCATTATTG	ACCACTCCCC	TATTGGTGAC	GATACTTTCC
3241	ATTACTAATC	CATAACATGG	CTCTTTGCCA	CAACTATCTC	TATTGGCTAT	ATGCCAATAC
3301	TCTGTCTTC	AGAGACTGAC	ACGGACTCTG	TATTTTACCA	GGATGGGGTC	CCATTTATTA
3361	TTTACAAATT	CACATATACA	ACAACGCCGT	CCCCCGTGCC	CGCAGTTTTT	ATTAAACATA
3421	GCGTGGGATC	TCCACGCCAA	TCTCGGTAC	GTGTTCCGGA	CATGGGCTCT	TCTCCGGTAG
3481	CGGCGGAGCT	TCCACATCCG	AGCCCTGGTC	CCATGCCCTCC	AGCGGCTCAT	GCTCGCTCGG
3541	CAGCTCCTTG	CTCCTAACAG	TGGAGGCCAG	ACTTAGGCAC	AGCACAATGC	CCACCACCAC
3601	CAGTGTGCCG	CACAAGGCCG	TGGCGGTAGG	GTATGTGTCT	GAAAATGAGC	TGGGAGATTG
3661	GCCTCGCACC	GTGACGCAGA	TGGAAGACTT	AAGGCAGCGG	CAGAAGAAGA	TGCAGGCAGC
3721	TGAGTTGTTG	TATTCTGATA	AGAGTCAGAC	GTAAGTCCCC	TTGCGGTGCT	GTAAACGGTG
3781	GAGGGCAGTG	TACTCTGAGC	AGTACTCGTT	GCTGCCGCGC	GCGCCACCAG	ACATAATAGC
3841	TGACAGACTA	ACAGACTGTT	CCTTTCCATC	GGTCTTTTCT	GCAGTCACCG	TCCAAGCTTG
3901	CAATCATGGA	TGCAATGAAG	AGAGGGCTCT	GCTGTGTGCT	GCTGTGTGCT	GGAGCAGTCT
3961	TGCTTTCCGC	TAGCAATCCG	GACAAATTAT	ACCGTGCTGA	CTCTAGACCC	CCAGATGAAA
4021	TAAAACGTTT	CGGAGGTCTT	ATGCCAGAG	GGCATAATGA	GTACTTCGAT	ACAGGAAGTC
4081	AAATGAATAT	TAATCTTTAT	GATCACGCCA	GAGGAACACA	AACCGGCTTT	GTCAGATATG
4141	ATGACGGATA	TGTTTCCACT	TCTCTTAGTT	TGAGAAGTGC	TCACTTAGCA	GGACAGTCTA
4201	TATTATCAGG	ATATTCCACT	TACTATATAT	ATGTTATAGC	GACAGCACCA	AATATGTTTA
4261	ATGTTAATGA	TGTATTAGGC	GTATACAGCC	CTCACCATA	TGAACAGGAG	GTTTCTGCGT
4321	TAGGTGGAAT	ACCATATTCT	CAGATATATG	GATGGTATCG	TGTTAATTTT	GCTGTGATTG
4381	ATGAACGATT	ACATCGTAAC	AGGGAATATA	GACACCGGTA	TTACAGAAAT	CTGAATATAG
4441	CTCCGGCAGA	GGATGGTTAC	AGATTAGCAG	GTTTCCCACC	GGATCACCAG	GCTTCCGAGG
4501	AAGAACCCTG	GATTCATCAT	GCACCACAAG	GTTGTGGAAA	TTCATCAAGA	ACAATTACAG
4561	GTGATACTTG	TAATGAGGAG	ACCCAGAATC	TGAGCACAAT	ATATCTCAGG	AAATATCAAT
4621	CAAAAGTTAA	GAGGCAGATA	TTTTACACT	ATCACTCAGA	GGTIGACATA	TATAACAGAA
4681	TTCCGGATGA	ATTATGAGGA	TCCTCGCAAT	CCCTAGGAGG	ATTAGGCAAG	GCCTTGAGCT
4741	CACGCTCTTG	TGAGGGACAG	AAATACAATC	AGGGGCAGTA	TATGAATACT	CCATGGAGAA
4801	ACCCAGATCT	ACGTATGATC	AGCCTCGACT	GTGCCTTCTA	GTTGCCAGCC	ATCTGTTGTT
4861	TGCCCCTCCC	CCGTGCCTTC	CTTGACCCTG	GAAGGTGCCA	CTCCCACTGT	CCTTTCCCTAA
4921	TAAAATGAGG	AAATTGCATC	GCATTGTCTG	AGTAGGTGTC	ATICTATICT	GGGGGGTGGG
4981	GTGGGGCAGG	ACAGCAAGGG	GGAGGATTGG	GAAGACAATA	GCAGGCATGC	TGGGGATCCG
5041	GTGGGGCTCTA	TGGCTTCTGA	GGCGGAAAGA	ACCAGCTGGG	GCTCGACAGC	TGCACTCTAG
5101	AATTCACCTG	CCGTCGTTTT	ACAACGTCGT	GACTGGGAAA	ACCCTGGCGT	TACCAACTT
5161	AATCGCCTTG	CAGCACATCC	CCCTTTCCGC	AGCTGGCGTA	ATAGCGAAGA	GGCCCGCACC
5221	GATCGCCCTT	CCCAACAGTT	GCGCAGCCTG	AATGGCGAAT	GCGGCCTGAT	GCGGTATTTT
5281	CTCCTTACCC	ATCTGTGCGG	TATTTACAC	CGCATATGCT	GCACTCTCAG	TACAATCTGC
5341	TCTGATGCCG	CATAGTTAAG	CCAGCCCCGA	CACCCGCCAA	CACCCGCTGA	CGCGCCCTGA
5401	CGGCGTTGTC	TGCTCCCGGC	ATCCGCTTAC	AGACAAGCTG	TGACCGTCTC	CGGGAGCTGC
5461	ATGTGTCAGA	GGTTTTACCC	GTCATCACCG	AAACGCCGGA		

FIG. 4-3



Molecule: pPJV2005, 5089 bps DNA Circular
 File Name: pPJV2005.cm5,

Description: Ligation of LTB NheBam Frag into 7054 Nhe Bam Vector

Notes:

Molecule Features:

Type	Start	End	Name	Description
REGION	2242	3060	CMVpro	
REGION	3061	3884	intronA	
GENE	3906	3969	TPAsigCDS'	
GENE	3975	4286	LTB CDS	
REGION	4394	4690	bGHpA	

Enzymes (19 sites)

PciI	1876,	SalI	2241,	MscI	2266,	SpeI	2356
SacII	3009,	NsiI	3106,	PstI	3879,	HindIII	3894
NheI	3969,	ClaI	4061	SmaI	4130	MunI	4258

FIG. 5-1

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Molecule: pPJV2005, 5089 bps DNA Circular
 Description: Ligation of LTB NheBam Frag into 7054 Nhe Bam Vector
 File Name: pPJV2005.cm5,
 Printed: 1-5089 bps (Full), format Single Strand

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1   GACGAAAGGG CCTCGTGATA CGCCTATTTT TATAGGTTAA TGTCATGATA ATAATGCTTT
61  CTTAGACGTC AGGTGGCACT TTTCGGGGAA ATGTGCGCGG AACCCCTATT TGTITATTTT
121 TCIAAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTCGCCCTT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTGCTC ACCCAGAAAC GCTGCTGAAA GTAAAACATG
301 CTGAAGATCA GTTGGGTGCA CGAGTGGGTT ACATCGAACT GCATCTCAAC AGCGGTAAGA
361 TCCTTGACAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT GAGCACTTTT AAAGTTCTCG
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA GCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGAGAATTA TGCAGTCTTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACCGGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TCGCAACAAC GTTGGCAGAA CTATTAAGTG
781 CGGAAGTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GACCCGGTGA GCGTGGCTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAAGCCT
961 CCCGTATCGT ACTTATCTAC ACGACGGGGA GTACAGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAAAACTTC ATTTTAAATT TAAAAGGATC TAGGTGAAGA
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCCTTC CACTGACCGT
1201 CAGACCCCGT AGAAAAGATC AAAGGATCTT CTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAAGTGGCT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACC GCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCC TGTCTTACCG
1501 GGTTGGACTC AAGACGATAG TTACCGGATA AGGCGCAGCG GTCGGGCTGA ACGGGGGGTT
1561 CGTGACACACA GCCCAGCTTG GAGCGAACGA CCTACACCGA ACTGACATAC CTACAGCGTG
1621 AGCATTGAGA AAGCGCCACC CTTCGCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCCG AACAGGAGAG CGCAGGAGCG AGCTTCCAGG GGGAAACGCC TGGTATCTTT
1741 ATAGTCCTGT CGGGTTTCGC CACCTCTGAC TTGAGCGTCG ATTTTGTGA TGCTCGTCAG
1801 GGGGGCGGAG CCTATGGAAG AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCTCG CGTTATCCCC TGATTCTGTG GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCGCAGCCG AACGACCGAG CGCAGCGACT
1981 CAGTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAAAC GCCTCTCCCC GCGGTTGGC
2041 CGATTCAATTA ATGCAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCGACATAA ATCAATATTG GCTATTGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATGG AGTTCCGCGT TACATAACTT ACGGTAAATG GCCCGCCTCG TGACCGCCCA
2461 ACGACCCCGG CCCATTGACC TCAATAATGA CGTATGTTCC CATAGTAACC CCAATAGGGA
2521 CTTTCCATTG ACGTCAATGG GTGAGATGTA TACGCTAAAC TGCCCACTTG GCAGTACATC
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FIG. 5-2

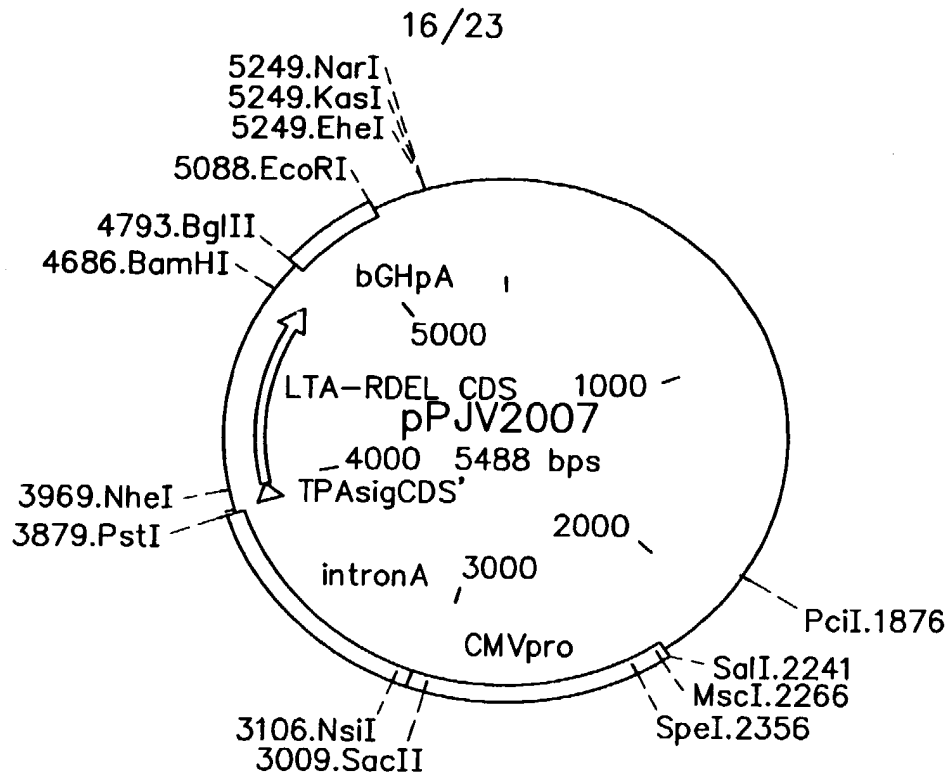
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2761 CCGTTTGA CT CACGGGGATT TCCAAGTCTC CACCCCATTC ACCTCAATGG CACTTTCTTT
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3001 TCCAGCCTCC GCGGCGGGA ACGGTGCATT GGAACCGCGA TTCCCGTGC CAAGAGTGAC
3061 GTAAGTACCG CCTATAGACT CTATAGGCAC ACCCCTTTGG CTCTTATGCA TGCTATACTG
3121 TTTTGGCTT GGGGCTATA CACCCCGCT CTTTATGCTA TAGGTGATGG TATAGCTTAG
3181 CCTATAGGTG TGGGTATTG ACCATTATTG ACCACTCCCC TATTGGTGAC GATACTTTCC
3241 ATTACTAATC CATAACATGG CTCTTTGCCA CAACTATCTC TATTGGCTAT ATGCCAATAC
3301 TCTGTCTTC AGAGACTGAC ACGGACTCTG TATTTTACA GGATGGGGTC CCATTTATTA
3361 TTTACAAATT CACATATACA ACAACGCCGT CCCCCTGGC CGCAGTTTTT ATTAACATA
3421 GCGTGGGATC TCCACGGGA TCTCGGTAC CTGTTCGGA CATGGCTCT TCTCCGGTAG
3481 CGGCGGAGCT TCCACATCCG AGCCCTGGTC CCATGCCTCC AGCGGCTCAT GGTGCTCGG
3541 CAGCTCCTTG CTCCTAACAG TGGAGGCCAG ACTTAGGCAC AGCACAATGC CCACCACCAC
3601 CAGTGTGCGG CACAAGGCCG TGGCGGTAGG GTATGTGTCT GAAAATGAGC TCGGAGATTG
3661 GGCTCGCACC GTGACGCAGA TGGAAGACTT AAGGCAGCGG CAGAAGAAGA TCGAGGCAGC
3721 TGAGTTGTTG TATTCTGATA AGAGTCAGAG GTAACCTCCG TTGCGGTGCT GTTAACGGTG
3781 GAGGGCAGTG TAGTCTGAGC AGTACTCGTT GCTGCCGCGC GCGCCACCAG ACATAATAGC
3841 TGACAGACTA ACAGACTGTT CCTTTCCATG GGTCTTTTCT GCAGTCACCG TCCAAGCTTG
3901 CAATCATGGA TGCAATGAAG AGAGGGCTCT GCTGTGTGCT GCTGCTGTGT GGAGCAGTCT
3961 TCGTTTCGGC TAGCGTCCC CAGTCTATTA CAGAACTATG TTCGGAATAT CGCAACACAT
4021 AAATATATAC GATAAATGAC AAGATACTAT CATATACGGA ATCGATGGCA GCGAAAAGAG
4081 AAATGTTTAT CATTACATTT AAGAGCGCGC CAACATTTCA GGTCCAAGTC CCGGGCAGTC
4141 AACATATAGA CTCCCAAAAA AAAGCCATTG AAAGGATGAA GGACACATTA AGAATCACAT
4201 ATCTGACCGA GACCAAAATT GATAAATTAT GTGTATGGAA TAATAAAACC CCCAATTCAA
4261 TTGCGGCAAT CAGTATGGAA AACTAGCGAT CCTCGCAATC CCTAGGAGGA TTAGGCAAGG
4321 GCTTGAGCTC ACGCTCTTGT GAGGGACAGA AATACAATCA GGGGCAGTAT ATGAATACTC
4381 CATGGAGAAA CCCAGATCTA CGTATGATCA GCCTCGACTG TGCCTTCTAG TTGCCAGCCA
4441 TCTGTTGTTT GCCCCTCCC CGTGCCTTCC TTGACCCTGG AAGGTGCCAC TCCCACTGTC
4501 CTTTCCTAAT AAAATGAGGA AATTGCATCC CATTGTCTGA GTAGGTGTCA TTCTATTCTG
4561 GCGGCTGGGG TGGGGCAGGA CAGCAACCGG GAGGATTGGG AAGACAATAG CAGGCATGCT
4621 GGGGATGCGG TGGGCTCTAT GGCTTCTGAG GCGGAAAGAA CCAGCTGGGG CTGACAGCT
4681 CGACTCTAGA ATTCACTGGC CGTCGTTTTA CAACGTCTGT ACTGGGAAAA CCCTGGCGTT
4741 ACCCAACTTA ATCGCCTTGC AGCACATCCC CCTTTCGCCA GCTGGCGTAA TAGCGAAGAG
4801 GCGCGCACCG ATCGCCCTTC CCAACAGTTG CGCAGCCTGA ATGGCGAATG GCGCCTGATG
4861 CGGTATTTTC TCCTTACGCA TCTGTGCGGT ATTTACACAC GCATATGGTG CACTCTCACT
4921 ACAATCTGCT CTGATGCCGC ATAGTTAAGC CAGCCCCGAC ACCCGCCAAC ACCCGCTGAC
4981 GCGCCCTGAC GGGCTTGTCT GCTCCCGGCA TCCGCTTACA GACAAGCTGT GACCGTCTCC
5041 GGGAGCTGCA TGTGTCAGAG GTTTTCACCG TCATCACCGA AACCGCGA

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FIG. 5-3



Molecule: pPJV2007, 5488 bps DNA Circular
File Name: pPJV2007.cm5,

Description: Ligation of LTA-RDEL Nhe Bam insert into 7054 Nhe Bam Vector

Notes:

Molecule Features:

Type	Start	End	Name	Description
REGION	2242	3060	CMVpro	
REGION	3061	3884	intronA	
GENE	3906	3969	TPAsigCDS'	
GENE	3975	4685	LTA-RDEL CDS	
REGION	4793	5089	bGHpA	

Enzymes (14 sites)

PciI	1876,	SalI	2241,	MscI	2266,	SpeI	2356
SacII	3009,	NsiI	3106,	PstI	3879,	NheI	3969
BamHI	4686,	BglII	4793,	EcoRI	5088,	EheI	5249

FIG. 6-1

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Molecule: pPJV2007, 5488 bps DNA Circular
 Description: Ligation of LTA-RDEL Nhe Bam insert into 7054 Nhe Bam Vector
 File Name: pPJV2007.cm5.
 Printed: 1-5488 bps (Full), format Single Strand

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1  GACGAAAGGG CCTCGTGATA CGCCTATTTT TATAGGTTAA TGTCATGATA ATAATGGTTT
61  CTTAGACGTC AGGTGGCACT TTTGGGGCAA ATGTGCGCGG AACCCCTATT TGTTTATTTT
121 TCTAAATACA TTCAAATATG TATCCGCTCA TGAGACAATA ACCCTGATAA ATGCTTCAAT
181 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTTCCG TGTCGCCCTT ATTCCCTTTT
241 TTGCGGCATT TTGCCTTCCT GTTTTTGCTC ACCCAGAAAC GCTGGTCAAA GTAAAAGATG
301 CTGAAGATCA GTTGGGTGCA CCACTGGGTT ACATCGAACT GGATCTCAAC AGCGGTAAAG
361 TCCTTGAGAG TTTTCGCCCC GAAGAACGTT TTCCAATGAT CAGCACTTTT AAAGTTCTGC
421 TATGTGGCGC GGTATTATCC CGTATTGACG CCGGGCAAGA CCAACTCGGT CGCCGCATAC
481 ACTATTCTCA GAATGACTTG GTTGAGTACT CACCAGTCAC AGAAAAGCAT CTTACGGATG
541 GCATGACAGT AAGACAAATTA TGCAGTGTG CCATAACCAT GAGTGATAAC ACTGCGGCCA
601 ACTTACTTCT GACAACGATC GGAGGACCGA AGGAGCTAAC CGCTTTTTTG CACAACATGG
661 GGGATCATGT AACTCGCCTT GATCGTTGGG AACCAGGAGCT GAATGAAGCC ATACCAAACG
721 ACGAGCGTGA CACCACGATG CCTGTAGCAA TGGCAACAAC GTTGGCAGAA CTATTAAGTG
781 GCGAAGTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAAG
841 TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGCTGGCTG GTTTATTGCT GATAAATCTG
901 GAGCCGGTGA CCGTGGGTCT CGCGGTATCA TTGCAGCACT GGGGCCAGAT GGTAAAGCCCT
961 CCCGTATCGT AGTTATCTAC ACGACGGGGA GTCAGGCAAC TATGGATGAA CGAAATAGAC
1021 AGATCGCTGA GATAGGTGCC TCACTGATTA AGCATTGGTA ACTGTCAGAC CAAGTTTACT
1081 CATATATACT TTAGATTGAT TTAACACTTC ATTTTAAATT TAAAAGGATC TAGGTCGAAG
1141 TCCTTTTTGA TAATCTCATG ACCAAAATCC CTTAACGTGA GTTTTCGTTT CACTGAGCGT
1201 CAGACCCCGT ACAAAGATC AAAGGATCTT CTGAGATCC TTTTTTCTG CGCGTAATCT
1261 GCTGCTTGCA AACAAAAAAA CCACCGCTAC CAGCGGTGGT TTGTTTGCCG GATCAAGAGC
1321 TACCAACTCT TTTTCCGAAG GTAAGTGGCT TCAGCAGAGC GCAGATACCA AATACTGTCC
1381 TTCTAGTGTA GCCGTAGTTA GGCCACCACT TCAAGAACTC TGTAGCACCG CCTACATACC
1441 TCGCTCTGCT AATCCTGTTA CCAGTGGCTG CTGCCAGTGG CGATAAGTCG TGTCTTACCG
1501 GGTGGACTTC AAGACGATAG TTACCGGATA AGCCGAGCGG GTCGGGCTGA ACGGGGGGTT
1561 CGTGACACAC GCCCAGCTTG GAGCGAACCA CCTACACCGA ACTGAGATAC CTACAGCGTG
1621 AGCATTGACA AAGCCGACG CTTCCCGAAG GGAGAAAGGC GGACAGGTAT CCGGTAAGCG
1681 GCAGGGTCGG AACAGGAGAG CGCAGACCGG ACCTTCCAGG GGGAAACGCC TGGTATCTTT
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1801 GCGGCGCGAG CCTATGAAA AACGCCAGCA ACGCGGCCTT TTTACGGTTC CTGGCCTTTT
1861 GCTGGCCTTT TGCTCACATG TTCTTTCCTG CGTTATCCCC TGATTCTGTC GATAACCGTA
1921 TTACCGCCTT TGAGTGAGCT GATACCGCTC GCGGAGCCG AACGACCGAG CGCAGCGAGT
1981 CACTGAGCGA GGAAGCGGAA GAGCGCCCAA TACGCAAACC GCCTCTCCCC GCGCGTTGGC
2041 CGATTCAATTA ATGCAGCTGG CACGACAGGT TTCCCGACTG GAAAGCGGGC AGTGAGCGCA
2101 ACGCAATTAA TGTGAGTTAG CTCACTCATT AGGCACCCCA GGCTTTACAC TTTATGCTTC
2161 CGGCTCGTAT GTTGTGTGGA ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG
2221 ACCATGATTA CGCCAAGCTA GTCCACATAA ATCAATATTG GCTATTGGCC ATTGCATACG
2281 TTGTATCTAT ATCATAATAT GTACATTTAT ATTGGCTCAT GTCCAATATG ACCGCCATGT
2341 TGACATTGAT TATTGACTAG TTATTAATAG TAATCAATTA CGGGGTCATT AGTTCATAGC
2401 CCATATATGG AGTTCGCGGT TACATAACTT ACGGTAAATG GCGCGCCTCG TGACCGCCCA
2461 ACGACCCCGG CCCATTGACG TCAATAATGA CGTATGTTCC CATAGTAACG CCAATAGGGA
2521 CTTTCCATTG ACGTCAATCG GTGGAGTATT TACGGTAAAC TGCCCACTTG CCACTACATC
2581 AAGTGTATCA TATGCCAAGT CCGGCCCCCT ATTGACGTCA ATGACGGTAA ATGCCCCGCC
2641 TGGCATTATG CCCAGTACAT GACCTTACGG GACTTTCCTA CTTGGCAGTA CATCTACGTA
2701 TTAGTCATCG CTATTACCAT GGTATGCGG TTTTGGCAGT ACACCAATGG CCGTGGATAG

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FIG. 6-2

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2761 CGGTTTGA CT CACGGGGATT TCCAAGTCTC CACCCCAT TG ACGTCAATGG GAGTTTGTTT
2821 TGGCACCAAA ATCAACGGGA CTTTCCAAAA TGTCGTAATA ACCCCGCCCC GTTGACGCAA
2881 ATGGGCGGTA GGGGTGTACG GTGGGAGGTC TATATAAGCA GAGCTCGTTT AGTGAACCGT
2941 CAGATCGCCT GGAGACGCCA TCCACGCTGT TTTGACCTCC ATAGAAGACA CCGGGACCGA
3001 TCCAGCCTCC GCGGCGGGGA ACCGTCCA TT GGAACGCGGA TTCCCGGTGC CAAGAGTGAC
3061 GTAAGTACCG CCTATAGACT CTATAGGCAC ACCCCTTTGG CTCTTATGCA TGCTATACTG
3121 TTTTGTGCTT GGGGCCTATA CACCCCGCT CTTTATGCTA TAGGTGATGG TATAGCTTAG
3181 CCTATAGGTG TGGGTATTG ACCATTATTG ACCACTCCCC TATTGGTGAC GATACTTTCC
3241 ATTACTAATC CATAACATGG CTCTTTGCCA CAACTATCTC TATTGGCTAT ATGCCAATAC
3301 TCTGTCTTTC AGAGACTGAC ACGGACTCTG TATTTTTACA GGATGGGGTC CCATTTATTA
3361 TTTACAAATT CACATATACA ACAACGCCGT CCCCCGTGCC CGCAGTTTTT ATTAACATA
3421 GCGTGGGATC TCCACGCGAA TCTCGGGTAC GTGTTCGGGA CATGGGCTCT TCTCCGGTAG
3481 CGGCGGAGCT TCCACATCCG AGCCCTGGTC CCATGCCTCC AGCGGCTCAT GGTGCTCGG
3541 CAGCTCCTTG CTCCTAACAG TGGAGGCCAC ACTTAGGCAC AGCACAATGC CCACCACCAC
3601 CAGTGTGCCG CACAAGGCCG TGGCGGTAGG GTATGTGTCT GAAATGAGC TCGGAGATTG
3661 GGCTCGCACC GTGACGCAGA TGAAGACTT AAGGCAGCGG CAGAAGAAGA TGCAGGCAGC
3721 TGAGTTGTTG TATTCTGATA AGAGTCAGAG GTAACCTCCG TTGCGGTGCT GTTAACGGTG
3781 GAGGGCACTG TAGTCTGAGC AGTACTCGTT GCTGCCGCGC GCGCCACCAG ACATAATAGC
3841 TGACAGACTA ACAGACTGTT CCTTTCCATG GGTCTTTTCT GCAGTCACCG TCCAAGCTTG
3901 CAATCATGGA TCCAATGAAG AGAGGGCTCT GCTGTGTGCT GCTGCTGTGT GGAGCACTCT
3961 TCGTTTCGGC TAGCAATGGC GACAAATTAT ACCGTGCTGA CTCTAGACCC CCAGATGAAA
4021 TAAAACGTTT CCGAGCTCTT ATGCCCAGAT GGCATAATGA GTACTTCGAT AGAGGAACTC
4081 AAATGAATAT TAATCTTTAT GATCAGCGGA GAGGAACACA AACC GGCTTT GTCAGATATG
4141 ATGACGGATA TGTTTCCACT TCTCTTAGTT TGAGAAGTGC TCACTTAGCA GGACAGCTTA
4201 TATTATCAGG ATATTCCACT TACTATATAT ATGTTATAGC GACAGCACCA AATATGTTTA
4261 ATGTTAATGA TGTATTAGGC GTATACAGCC CTCACCCATA TGAACAGGAG GTTTCTGCGT
4321 TAGGTGGAAT ACCATAITCT CAGATATA TG GATGGTATCG TGTAAATTTT GGTGTGATTG
4381 ATGAACGATT ACATCGTAAC AGGCAATATA GAGACCGGTA TTACAGAAAT CTGAATATAG
4441 CTCCGGCAGA GGATGGTTAC AGATTAGCAG GTTTCCACCC GCATCACCAA GCTTGGAGAG
4501 AAGAACCCTG GATTCATCAT GCACCACAAG GTTGTGGA AA TTCATCAAGA ACAATTACAG
4561 GTGATACTTG TAATGAGGAG ACCCAGAATC TGAGCACAAT ATATCTCAGG AAATATCAAT
4621 CAAAACCTTA GAGGCAGATA TTTTCAGACT ATCAGTCAGA GGTTGACATA TATAACAGAA
4681 TTTGAGGATC CTCGCAATCC CTAGCAGGAT TAGGCAAGCG CTGAGCTCA CGCTCTGTG
4741 AGGCACAGAA ATACAATCAG GGGCAGTATA TGAATACTCC ATGGAGAAAC CCAGATCTAC
4801 GTATGATCAG CCTCGACTGT GCCTTCTAGT TGCCAGCCAT CTGTTGTTTG CCCCTCCCCC
4861 GTGCCCTTCT TGACCCTGGA AGGTGCCACT CCCACTGTCC TTTCTTAATA AAATGAGGAA
4921 ATTGCATCGC ATTGTCTGAG TAGGTGTCTT TCTATTCTGG GGGCTGGGGT GGGGCAGGAC
4981 AGCAAGGGGG AGGATTCCGA AGACAATAGC AGGCAITGCT GGGATGCGGT GGGCTCTATG
5041 GCTTCTGAGG CGGAAAGAAC CAGCTGGGGC TCGACAGCTC GACTCTAGAA TTCACTGGCC
5101 GTCGTTTTAC AACGTCGTGA CTGGGAAAAC CCTGGCGTTA CCCAACTTAA TCGCCTTGCA
5161 GCACATCCCC CTTTCGCCAG CTGGCGTAAT AGCGAAGAGG CCCGCACCGA TCGCCTTCC
5221 CAACAGTTGC CCAGCCTGAA TGGCGAATGG CGCCTGATGC GGTATTTTCT CCTTACGCAT
5281 CTGTGCGGTA TTTACACCCG CATATGGTGC ACTCTCAGTA CAATCTGCTC TGATGCCGCA
5341 TAGTTAAGCC AGCCCCGACA CCGGCCAACA CCGCTGACC CGCCCTGACC GGCTTGTCTG
5401 CTCCCGGCAT CCGCTTACAG ACAAGCTGTG ACCGTCTCCG GGAGCTGCAT GTGTCAGAGG
5461 TTTTACCGT CATCACCGAA ACGCGCGA

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FIG. 6-3

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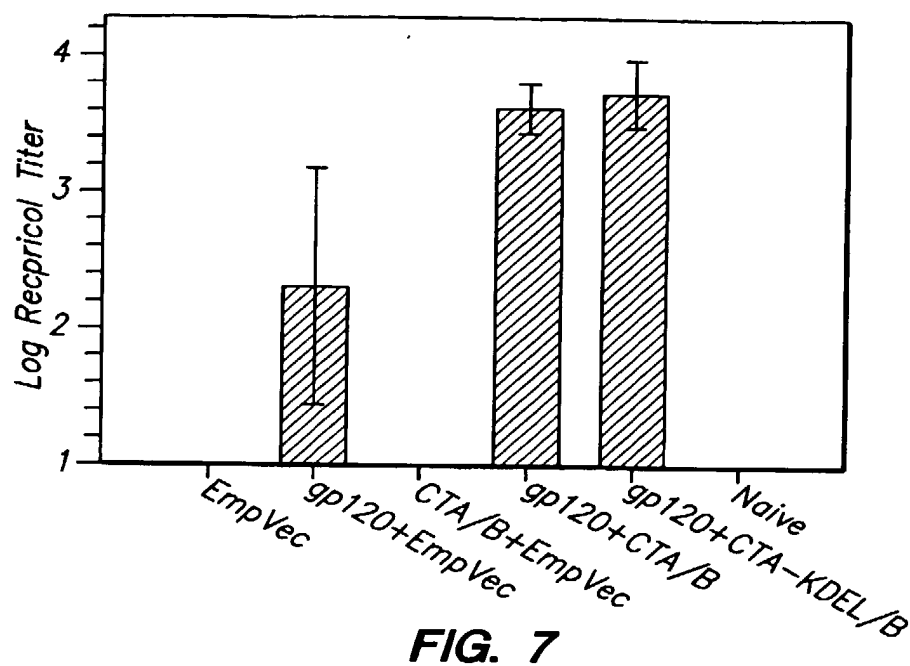


FIG. 7

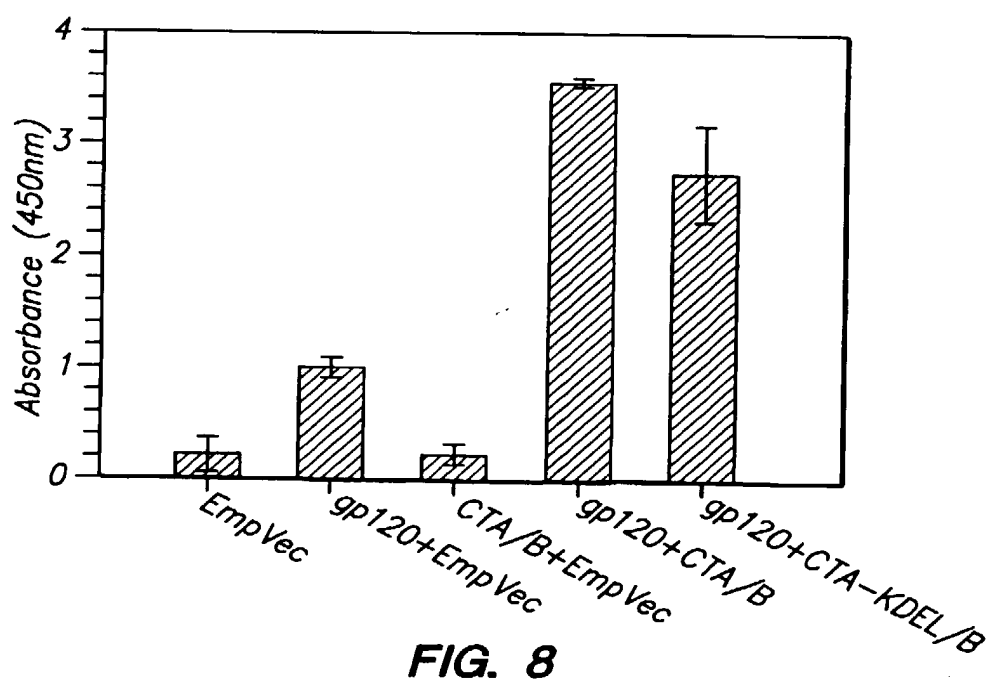
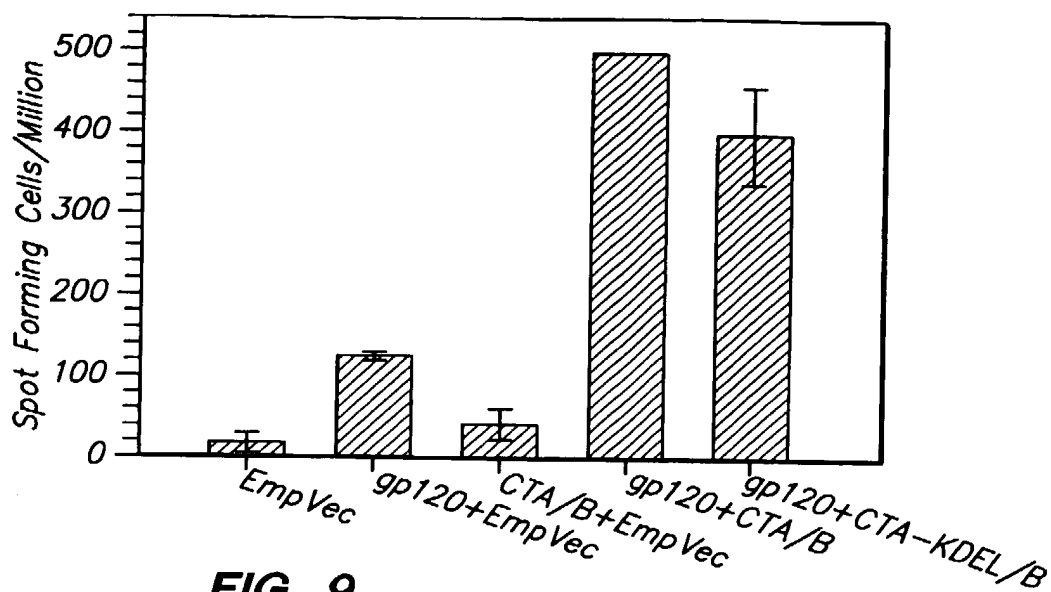
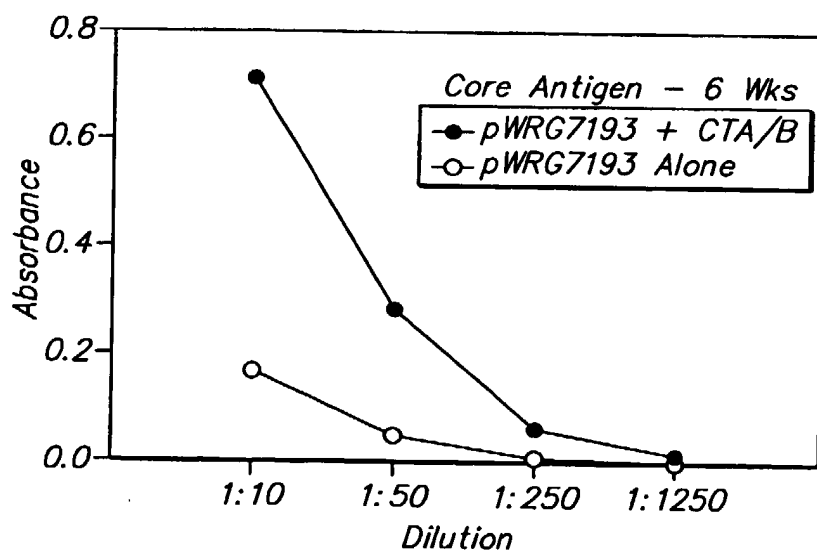


FIG. 8

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**FIG. 9****FIG. 10**

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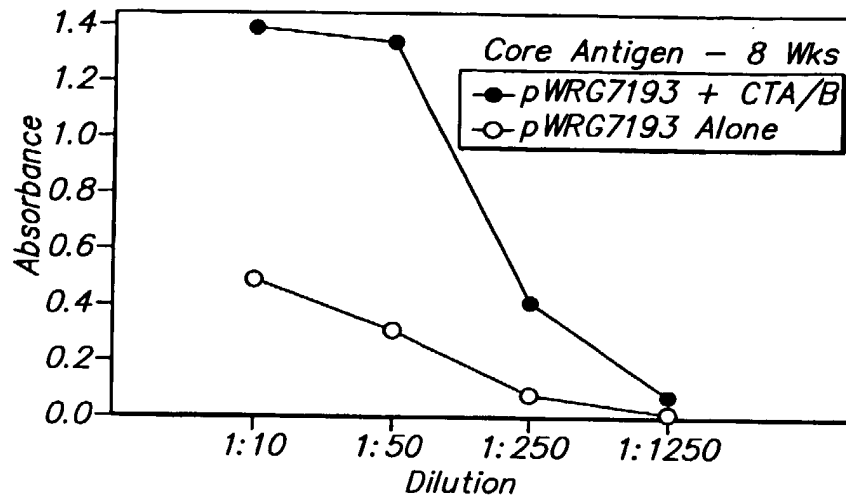


FIG. 11

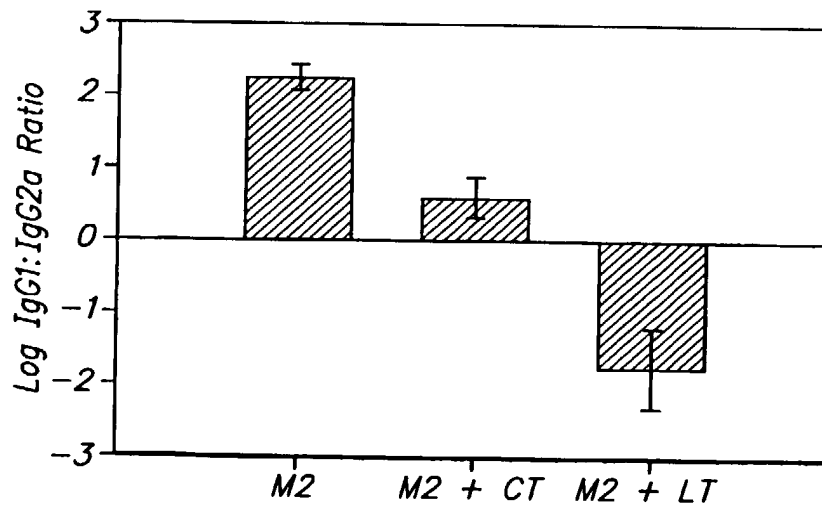


FIG. 12

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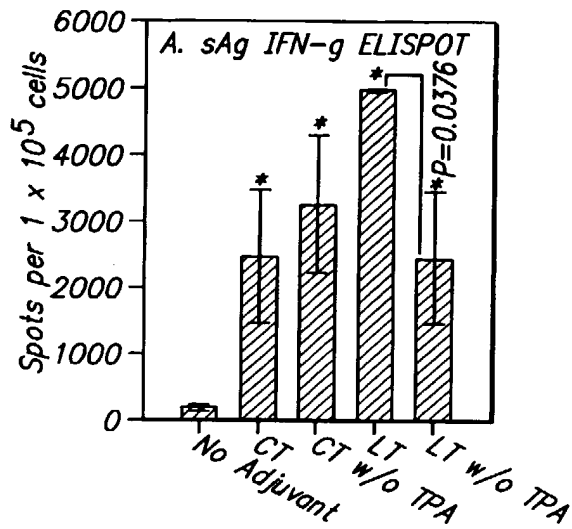


FIG. 13A

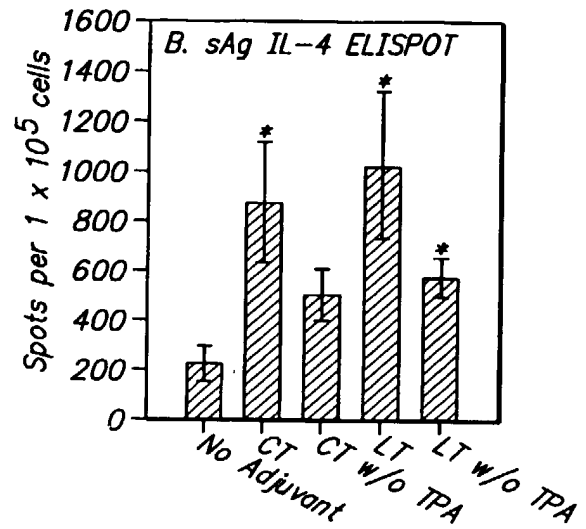


FIG. 13B

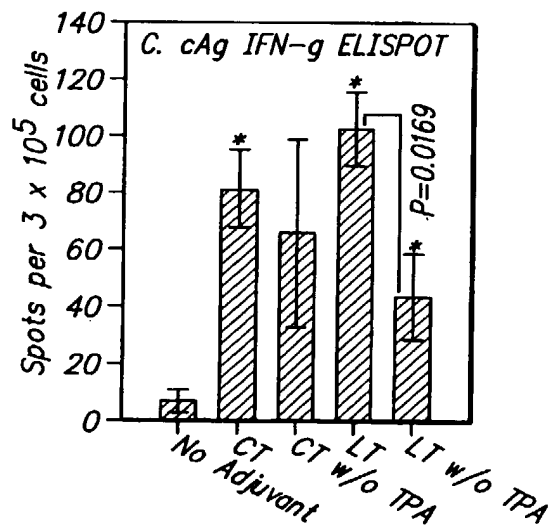


FIG. 13C

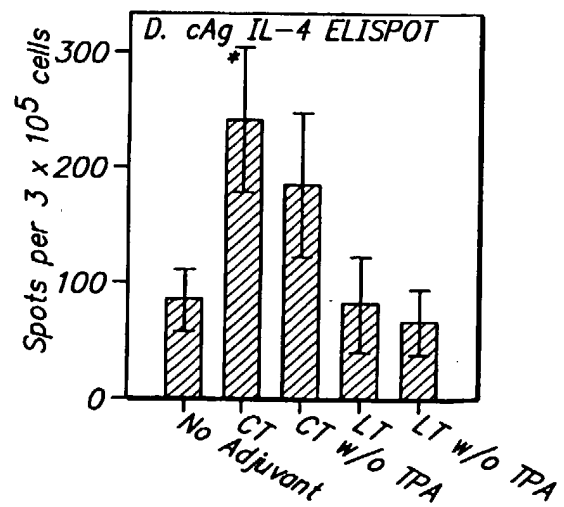
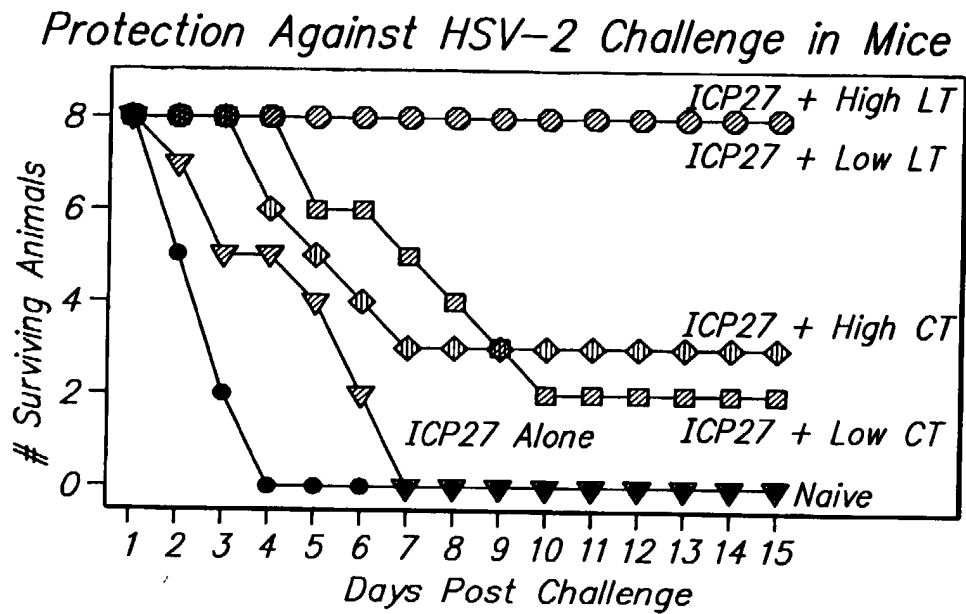


FIG. 13D

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**FIG. 14**